AMENDMENTS TO THE CLAIMS

1. (Original) A data transmission system comprising:

a mode controller receiving first data having a plurality of bits and outputting a first control signal in accordance with a number of data transitions of the plurality of bits of the data;

a data transmitter coupled to the mode controller and outputting second data corresponding to the first data in response to the first control signal from the mode controller; and

a data receiver coupled to the data transmitter and outputting third data corresponding to the second data in response to a second control signal corresponding to the first control signal.

2. (Original) The data transmission system according to claim 1, wherein the first and second control signals are the same signal.

3. (Original) The data transmission system according to claim 1, wherein the second data is an inverse of the first data depending on the first control signal.

4. (Original) The data transmission system according to claim 1, wherein the third data is an inverse of the second data depending on the second control signal.

5. (Original) The data transmission system according to claim 1, wherein the third data is the same as the first data.

6. (Original) The data transmission system according to claim 1, wherein the mode controller comprises:

transition detecting unit receiving the first data and detecting a transition in the plurality of bits of the first data;

a counter coupled to the transition detecting unit counting the number of transitions in the plurality of bits of the first data;

a comparator coupled to the counter comparing the number of transitions to a reference value; and

an output unit coupled to the comparator and outputting the first control signal.

7. (Original) The data transmission system according to claim 6, wherein the reference value is one of N/2, (N/2-1), and (N/2+1), where N is the number of bits of the first data.

8. (Original) The data transmission system according to claim 6, wherein the transition detecting unit comprises a plurality of transition detecting cells corresponding to the plurality of bits of the first data.

9. (Original) The data transmission system according to claim 8, wherein each of the transition detecting cell includes:

first flip-flop having a first output;

second flip-flop having a second output, the second flip-flop receiving the first output of the first flip-flop; and

a logic unit receiving the first and second outputs from the first and second flip-flops and outputting a third output, the third output containing information on a data transition of a corresponding bit of the plurality of the data bits of the first data.

10. (Original) The data transmission system according to claim 1, wherein the data transmitter comprises a control unit receiving the first data, an inverse of the first data, and the first control signal and outputting the second data, the second data being one of the inverse of the first data or the first data.

11. (Original) The data transmission system according to claim 1, wherein the data transmitter includes a logic unit receiving the first data and the first control signal and outputting the second data, the second data being one of the inverse of the first data or the first data.

12. (Original) The data transmission system according to claim 11, wherein the logic unit includes a plurality of exclusive OR gates.

13. (Original) The data transmission system according to claim 1, wherein the data receiver comprises a control unit receiving the second data, an inverse of the second data, and the second control signal and outputting the third data, the third data being one of the inverse of the second data or the second data.

14. (Original) The data transmission system according to claim 1, wherein the data receiver includes a logic unit receiving the second data and the second control signal and outputting the third data, the third data being one of the inverse of the second data or the second data.

15. (Original) The data transmission system according to claim 14, wherein the logic unit includes a plurality of exclusive OR gates.

16. (Original) A data transmission system for a computer comprising:

a main control unit including:

a video card outputting first data;

a mode controller receiving first data having a plurality of bits and outputting a first control signal in accordance with a number of data transitions of the plurality of bits of the data; and

a data transmitter coupled to the mode controller and outputting second data corresponding to the first data in response to the first control signal from the mode controller; and

a display unit coupled to the main control unit including:

a data receiver coupled to the data transmitter and outputting third data corresponding to the second data in response to a second control signal corresponding to the first control signal; and

data driver coupled to the data receiver and receiving the third data.

17. (Original) A data transmission system for a computer according to claim 16, further comprising an interface unit between the data receiver and the data driver.

18. (Original) A data transmission system for a computer according to claim 16, wherein the data receiver and the data driver are in one unit.

19. (Original) A liquid crystal display device having a data transmission system comprising:

a mode controller receiving first data having a plurality of bits and outputting a first control signal in accordance with a number of data transitions of the plurality of bits of the data;

a data transmitter coupled to the mode controller and outputting second data corresponding to the first data in response to the first control signal from the mode controller; and

a data receiver coupled to the data transmitter and outputting third data corresponding to the second data in response to a second control signal corresponding to the first control signal.

20. (Original) The liquid crystal display device according to claim 19, wherein the first and second control signals are the same signal.

21. (Original) The liquid crystal display device according to claim 19, wherein the second data is an inverse of the first data depending on the first control signal.

22. (Original) The liquid crystal display device according to claim 19, wherein the third data is an inverse of the second data depending on the second control signal.

23. (Original) The liquid crystal display device according to claim 19, wherein the third data is the same as the first data.

24. (Original) The liquid crystal display device according to claim 19, wherein the mode controller comprises:

transition detecting unit receiving the first data and detecting a transition in the plurality of bits of the first data;

a counter coupled to the transition detecting unit counting the number of transitions in the plurality of bits of the first data;

a comparator coupled to the counter comparing the number of transitions to a reference value; and

an output unit coupled to the comparator and outputting the first control signal.

25. (Original) The liquid crystal display device according to claim 24, wherein the reference value is one of N/2, (N/2-1), and (N/2+1), where N is the number of bits of the first data.

26. (Original) The liquid crystal display device according to claim 24, wherein the transition detecting unit comprises a plurality of transition detecting cells corresponding to the plurality of bits of the first data.

27. (Original) The liquid crystal display device according to claim 26, wherein each of the transition detecting cell includes:

first flip-flop having a first output;

second flip-flop having a second output, the second flip-flop receiving the first output of the first flip-flop; and

a logic unit receiving the first and second outputs from the first and second flip-flops and outputting a third output, the third output containing information on a data transition of a corresponding bit of the plurality of the data bits of the first data.

28. (Original) The liquid crystal display device according to claim 19, wherein the data transmitter comprises a control unit receiving the first data, an inverse of the first data, and the first control signal and outputting the second data, the second data being one of the inverse of the first data or the first data.

29. (Original) The liquid crystal display device according to claim 19, wherein the data transmitter includes a logic unit receiving the first data and the first control signal and outputting the second data, the second data being one of the inverse of the first data or the first data.

30. (Original) The liquid crystal display device according to claim 29, wherein the logic unit includes a plurality of exclusive OR gates.

31. (Original) The liquid crystal display device according to claim 19, wherein the data receiver comprises a control unit receiving the second data, an inverse of the second data, and the second control signal and outputting the third data, the third data being one of the inverse of the second data or the second data.

32. (Original) The liquid crystal display device according to claim 19, wherein the data receiver includes a logic unit receiving the second data and the second control signal and outputting the third data, the third data being one of the inverse of the second data or the second data.

33. (Original) The liquid crystal display device according to claim 32, wherein the logic unit includes a plurality of exclusive OR gates.

34. (Original) A computer comprising:

a main control unit including:

a video card outputting first data;

a mode controller receiving first data having a plurality of bits and outputting a first control signal in accordance with a number of data transitions of the plurality of bits of the data; and

a data transmitter coupled to the mode controller and outputting second data corresponding to the first data in response to the first control signal from the mode controller; and

a display unit coupled to the main control unit including:

a data receiver coupled to the data transmitter and outputting third data corresponding to the second data in response to a second control signal corresponding to the first control signal; and

data driver coupled to the data receiver and receiving the third data.

35. (Original) A computer according to claim 34, further comprising an interface unit between the data receiver and the data driver.

36. (Original) A computer according to claim 34, wherein the data receiver and the data driver are in one unit.

37. (Original) A method of transmitting data comprising the steps of:

receiving first data having a plurality of bits and outputting a first control signal in accordance with a number of data transitions of the plurality of bits of the data;

outputting second data corresponding to the first data in response to the first control signal; and

outputting third data corresponding to the second data in response to a second control signal corresponding to the first control signal.

38. (Original) A data transmission apparatus, comprising:

a mode controller for receiving a first data having a plurality of bits and a clock signal to detect a number of transitions of the first data corresponding to the clock signal and for generating a mode control signal having a logic value changing in accordance with the number of transitions;

a data transmitter, responsive to the mode control signal, for selectively inverting the first data and transmitting the inverted data; and

a data receiver, responsive to the mode control signal, for selectively inverting the selectively inverted data from the data transmitter to reconstruct the selectively inverted data into the first data.

39. (Original) A data transmission method comprising the steps of:

receiving a first data having a plurality of bits and a clock signal to detect a number of transitions in the first data corresponding to the clock signal and generating a mode control signal having a logic value changing in accordance with the number of transitions;

selectively inverting the first data in response to the mode control signal and transmitting the inverted data; and

selectively inverting the selectively inverted data in response to the mode control signal and reconstructing the inverted data into the first data.

40. (Original) A liquid crystal display device having a data driver for driving a liquid crystal panel, comprising:

a mode controller for receiving video data having a plurality of bits to detect a number of transitions between a first video data and a second video data and for generating a mode control signal having a logic value changing in accordance with the number of transitions;

a data transmitter, responsive to the mode control signal, for selectively inverting the second video data and transmitting the selectively inverted video data; and

a data receiver, responsive to the mode control signal, for selectively inverting the selectively inverted video data from the data transmitter to reconstruct the inverted video data into the second video data.

41. (Original) A computer system including a liquid crystal display device and a video card for producing video data to be supplied to the liquid crystal display device, said system comprising:

a mode controller for receiving video data having a plurality of bits from the video card to detect a number of bit transitions between a first video data and a second video data and for generating a mode control signal having a logic value changing in accordance with the number of bit transitions;

a data transmitter, responsive to the mode control signal, for selectively inverting the second video data and transmitting the selectively inverted video data; and

a data receiver, responsive to the mode control signal, for selectively inverting the selectively inverted video data inputted, via a transmission line, from the data transmitter and for reconstructing the inverted video data into the second video data.

42. (New) A liquid crystal display device having a data transmission system, comprising:

a mode controller receiving video data having a first set of three video signals of odd data and a second set of three video signals of even data and outputting a control signal in accordance with a number of data transitions of the video data;

a data transmitter coupled to the mode controller, selectively inverting video data in response to the control signal from the mode controller and outputting selectively inverted data;

a data receiver coupled to the data transmitter and outputting reconstructed data corresponding to the selectively inverted data and the control signal; and

a data driver converting the reconstructed data into an analog signal and outputting the analog signal to a liquid crystal panel.

43. (New) The liquid crystal display device according to claim 42, wherein the data receiver and the data driver are integrated as one unit.

44. (New) The liquid crystal display device according to claim 42, wherein the video data is selectively inverted by the data transmitter when the number of data transitions of the video data is greater than a predetermined threshold.

45. (New) The liquid crystal display device according to claim 42, wherein the reconstructed data is inverted when the number of data transitions is greater than a predetermined threshold.

46. (New) The liquid crystal display device according to claim 42, wherein the video data is selectively inverted by the data transmitter when the number of data transitions of the video data is greater than a predetermined threshold, and the reconstructed data is inverted when the number of data transitions is greater than a predetermined threshold

47. (New) A liquid crystal display device having a data transmission system comprising:

a mode controller receiving video data having a plurality of bits and outputting a control signal in accordance with a number of data transitions of the plurality of bits of the video data;

a data transmitter coupled to the mode controller and outputting first data corresponding to the video data and the control signal from the mode controller; and

a data driving circuit having a data driver and a data receiver coupled to the data transmitter, the data receiver selectively inverting the first data in response to the control signal,

and the data driver converting the selectively inverted first data into an analog signal and outputting the analog signal to a liquid crystal panel,

wherein the data driving circuit is integrated in one unit and electrically connected to the data transmitter with a flexible printed circuit film.

48. (New) The liquid crystal display device according to claim 47, wherein the video data includes a first set of three video signals of odd data and a second set of three video signals of even data.

49. (New) The liquid crystal display device according to claim 47, wherein the video data is inverted by the data transmitter when the number of data transitions of the plurality of bits of video data is greater than a predetermined threshold.

50. (New) The liquid crystal display device according to claim 47, wherein the first data is inverted when the number of transitions is greater than a predetermined threshold.

51. (New) The liquid crystal display device according to claim 47, wherein the video data is inverted by the data transmitter when the number of data transitions of the plurality of bits of video data is greater than a predetermined threshold, and the first data is inverted when the number of transitions is greater than a predetermined threshold.

52. (New) A method of transmitting data comprising:

receiving video data having a first set of three video signals of odd data and a second set of three video signals of even data;

outputting a control signal in response to a number of data transitions of the video data;

selectively inverting the video data in response to the control signal;

outputting selectively inverted data;

outputting reconstructed data corresponding to the selectively inverted data and the control signal;

converting the reconstructed data to an analog signal; and

outputting the analog signal to a liquid crystal panel.

53. (New) A method of driving a liquid crystal display device comprising:

receiving video data having a first set of three video signals of odd data and a second set of three video signals of even data and outputting a control signal in accordance with a number of data transitions of the video data;

selectively inverting video data in response to the control signal and outputting selectively inverted data;

outputting reconstructed data corresponding to the selectively inverted data and the control signal; and

converting the reconstructed data into an analog signal and outputting the analog signal.

54. (New) The method according to claim 53, wherein selectively inverting video data and outputting reconstructed data are performed by a single integrated unit.

55. (New) The method according to claim 53, wherein the video data is selectively inverted when the number of data transitions of the video data is greater than a predetermined threshold.

56. (New) The method according to claim 53, wherein the reconstructed data is inverted when the number of data transitions is greater than a predetermined threshold.

57. (New) The method according to claim 53, wherein the video data is selectively inverted when the number of data transitions of the video data is greater than a predetermined threshold, and the reconstructed data is inverted when the number of data transitions is greater than a predetermined threshold

58. (New) A method of driving a liquid crystal display device having a liquid crystal panel comprising:

receiving video data having a plurality of bits and outputting a control signal in accordance with a number of data transitions of the plurality of bits of the video data;

outputting first data corresponding to the video data and the control signal from the mode controller; and

selectively inverting the first data in response to the control signal, and converting the selectively inverted first data into an analog signal and outputting the analog signal to the liquid crystal panel,

wherein selectively inverting the first data and converting the selectively inverted first data are performed in a singly integrated unit, and

wherein selectively inverting the first data includes receiving the first data through a flexible printed circuit film.

59. (New) The method according to claim 58, wherein the video data includes a first set of three video signals of odd data and a second set of three video signals of even data.

60. (New) The method according to claim 58, wherein the video data is inverted when the number of data transitions of the plurality of bits of video data is greater than a predetermined threshold.

61. (New) The method according to claim 58, wherein the first data is inverted when the number of transitions is greater than a predetermined threshold.

62. (New) The method according to claim 58, wherein the video data is inverted when the number of data transitions of the plurality of bits of video data is greater than a predetermined

threshold, and the first data is inverted when the number of transitions is greater than a predetermined threshold.